

ABSTRACT

Pulse transit time-based method for distance measurement employs a complex multi-parametric modulation of emitted pulses with adaptive control of the parameters of modulation. An evaluation of the pulse transit time-variable's observability in a measuring cycle is used as an input of the adaptive control loop. The achieved special pattern of received pulses provides for obtaining a vector of characteristic elements on the pattern with low sensibility to active and passive disturbances present during measurement. These characteristic elements are used by the method for the accurate measurement of the pulse transit time, and consequently, for the calculation of the distance between the emitter of pulses and the target.